

FORCEMAIN EXTENSION

NVF, YORKLYN ROAD

ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.

BENCH MARK #2
SET IRON ROD WITH CAP
DE STATE PLANE
N- 657711.45
E- 583484.44
ELEVATION: 185.25'
NAVD88/NAD83

PAVE STATE LINE

BENCH MARK #5
SET IRON ROD WITH CAP
DE STATE PLANE
N- 656292.42
E- 582882.81
ELEVATION: 205.54'
NAVD88/NAD83

BENCH MARK #9
SET IRON ROD WITH CAP
DE STATE PLANE
N- 654907.22
E- 582133.11
ELEVATION: 225.98'
NAVD88/NAD83

BENCH MARK #14
SET IRON ROD WITH CAP
DE STATE PLANE
N- 652997.01
E- 580418.10
ELEVATION: 313.18'
NAVD88/NAD83

FM-6

FM-5

FM-3

FM-1

YORKLYN ROAD

YORKLYN ROAD

YORKLYN ROAD

RAILROAD

SHARPLESS ROAD

OLD WILMINGTON ROAD

OLD WILMINGTON ROAD

TO HOCKESSIN

TO HOCKESSIN

BENCH MARK #17
SET IRON ROD WITH CAP
DE STATE PLANE
N- 658091.33
E- 584008.47
ELEVATION: 179.21'
NAVD88/NAD83

DANIEL W. KONSTANSKI, P.E. DATE:
ARTESIAN WASTEWATER MANAGEMENT, INC.
664 CHURCHMANS ROAD
NEWARK, DE 19702
PHONE: (302) 453-6900
FAX: (302) 453-5800



STABILIZED CONSTRUCTION ENTRANCE SCE

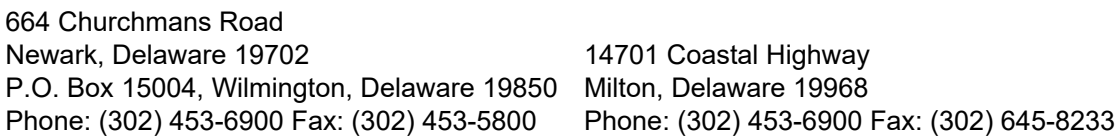
CROSSING UNDER STORM DRAINS REQUIRE EITHER REMOVAL AND REPLACEMENT OR CONCRETE CRADLE POURED UNDER THEM TO AVOID SETTLEMENT.

REFER TO THE ABOVE INDEX FOR THE LOCATION OF OTHER DETAILS REQUIRED FOR SITE IMPROVEMENTS.

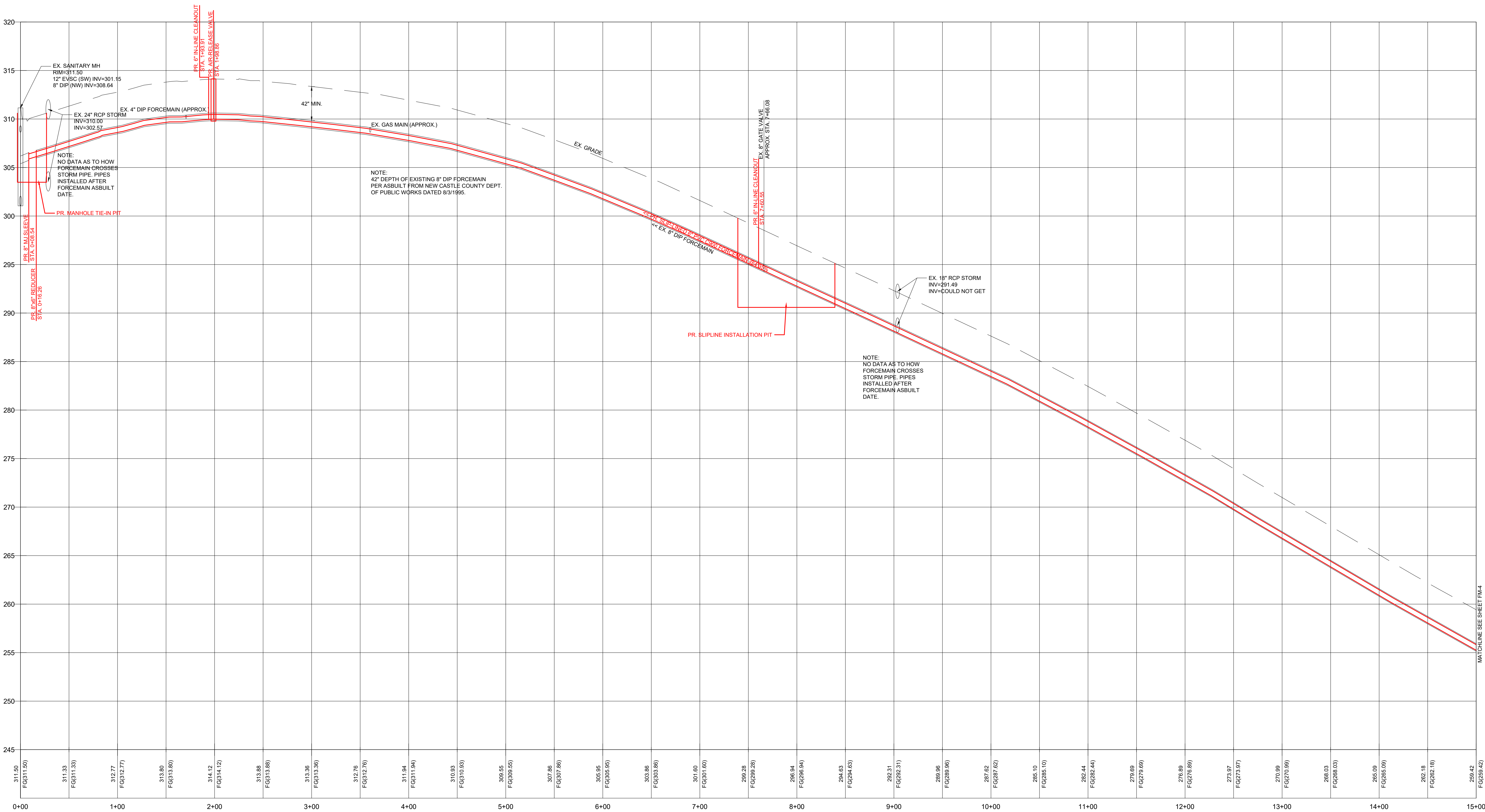
Budget No. 3003877

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DELAWARE



REVISIONS:



PROFILE
PROPOSED SLIP-LINED 6-INCH FORCEMAIN
STA: 0+00.00 TO 15+00.00
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE 1" = 5'

SEE SHEET FM-1 FOR PLAN VIEW.



664 Churchmans Road
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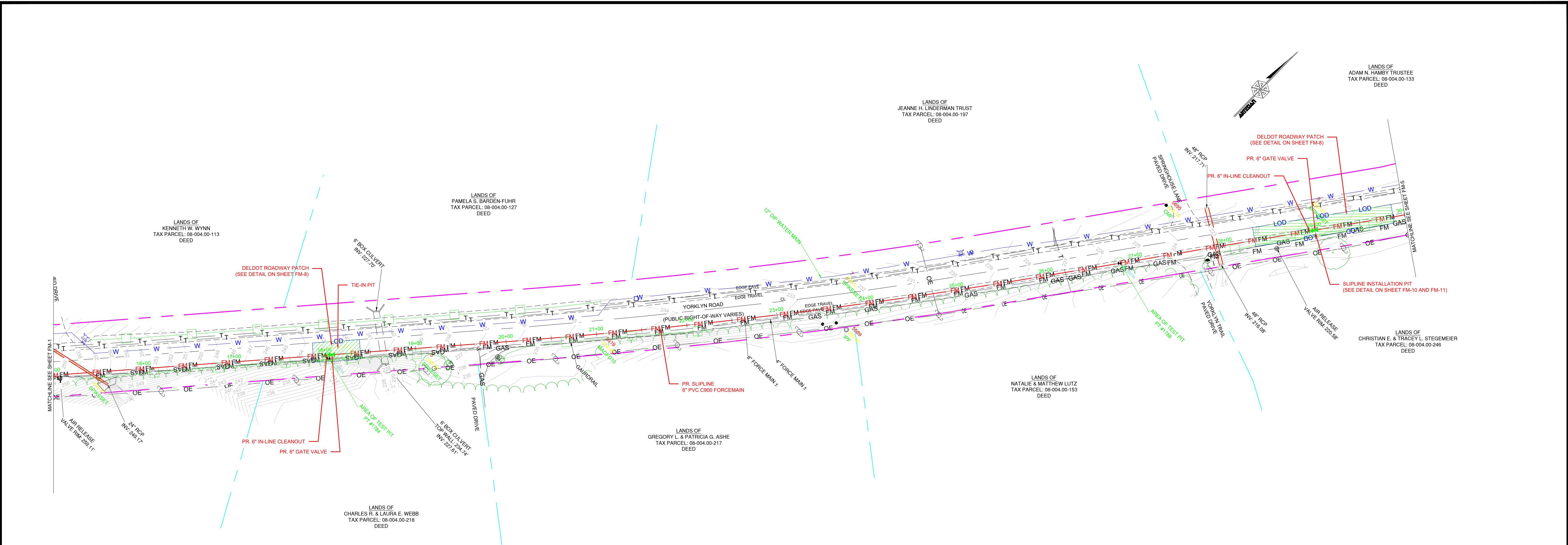
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| Date: | 4/1/21 | Checked By: | AG | Sheet: | FM-2 |
| Scale: | 1"=50' | Page & Grid: | | Hundred: | MILL CREEK |
| Drawn By: | KEG | CAD File: | FORCEMAIN PLANS.dwg | Budget No. | 3003877 |

FORCEMAIN EXTENSION PLAN AND PROFILE
NVF, YORKLYN ROAD

NEW CASTLE COUNTY

50 0 50 100 150

STATE OF DELAWARE



PLAN VIEW
SCALE: 1"=50'

SEE SHEET FM-4 FOR PROFILE VIEW.

NOTE:
ALL WORK WITHIN STATE RIGHT-OF-WAY SHALL BE PERFORMED
IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATIONS,
DELDOT STANDARD CONSTRUCTION DETAILS, DELAWARE
MUTCD, AND DELDOT UTILITIES MANUAL.

NOTE:
RIGHT OF WAY AND/OR PROPERTY LINES DEPICTED ON PLANS ARE NOT THE RESULT OF ANY RIGHT
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DELAWARE DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ROAD PLANS AND THE BEST
AVAILABLE INFORMATION FROM SUSSEX COUNTY MAPPING.



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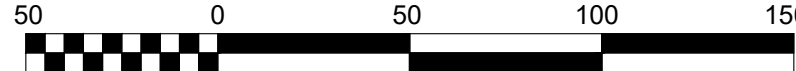
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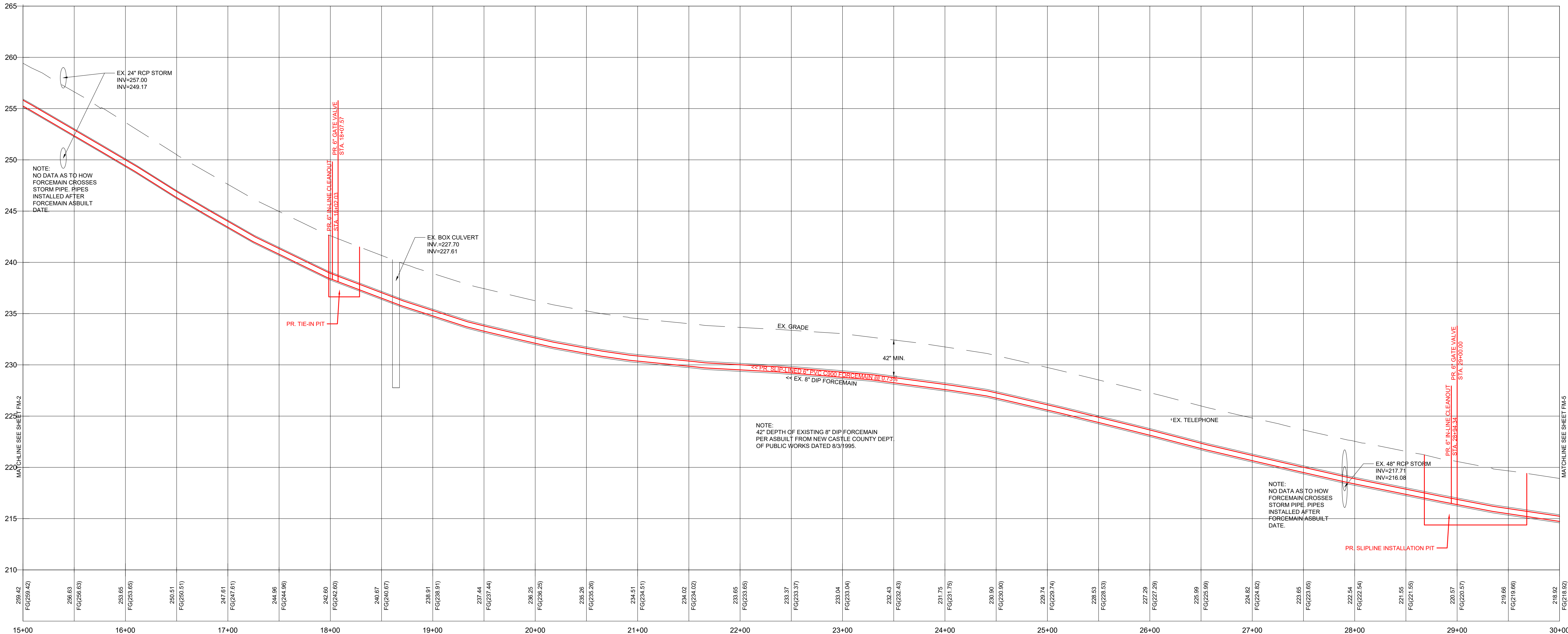
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FORCEMAIN EXTENSION PLAN AND PROFILE
NVF, YORKLYN ROAD

NEW CASTLE COUNTY STATE OF DELAWARE





PROFILE
PROPOSED SLIP-LINED 6-INCH FORCEMAIN
STA: 15+00.00 TO 30+00.00
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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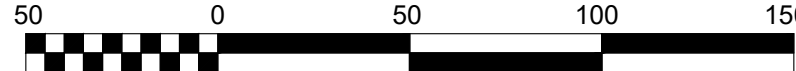
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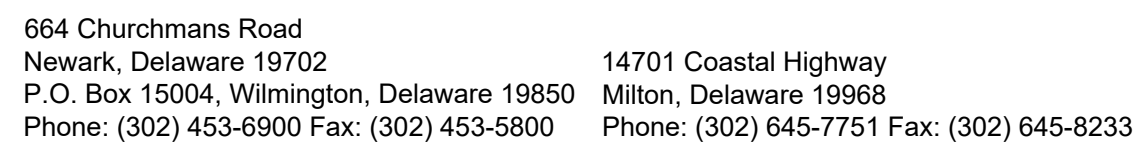
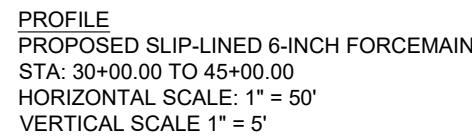
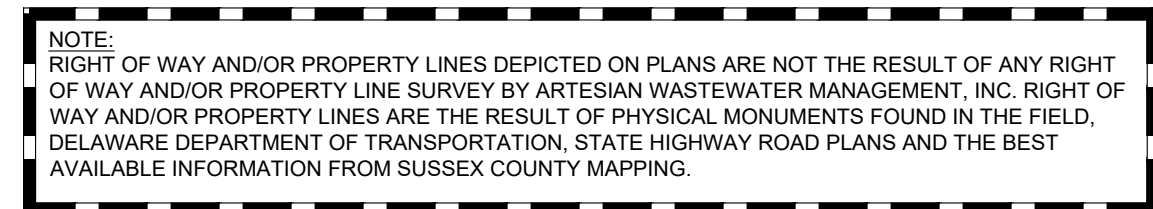
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FORCEMAIN EXTENSION PLAN AND PROFILE NVF, YORKLYN ROAD

NEW CASTLE COUNTY STATE OF DELAWARE

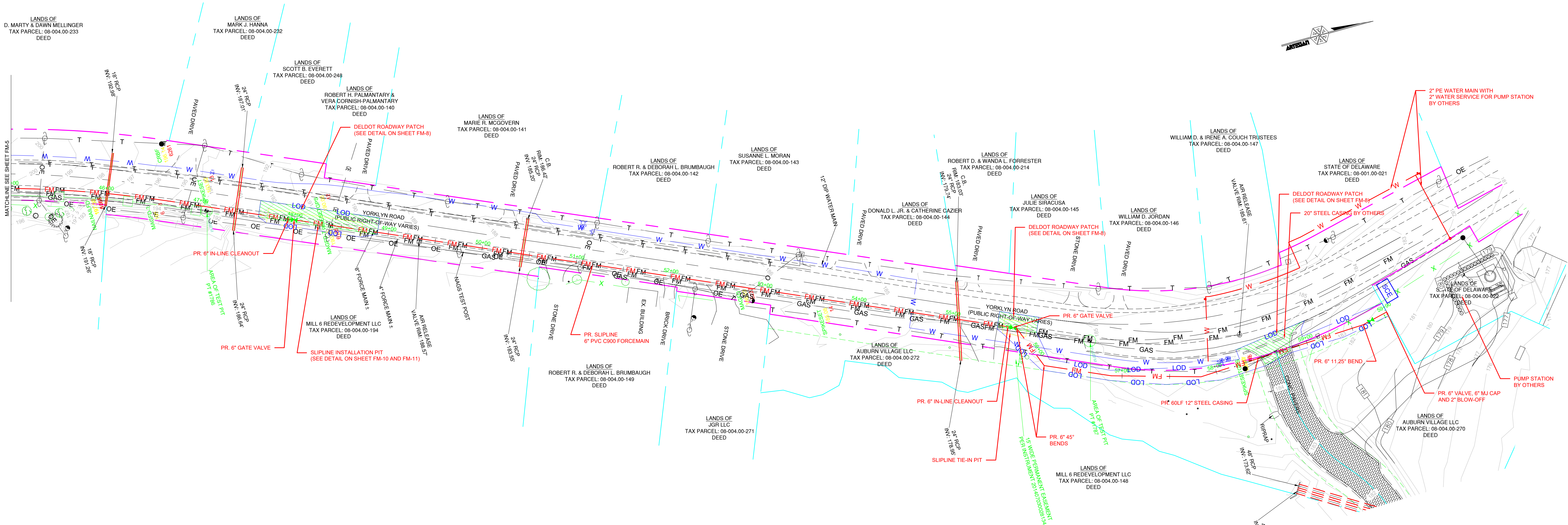




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NEW CASTLE COUNTY STATE OF DELAWARE



PLAN VIEW
SCALE: 1"=50'

SEE SHEET FM-7 FOR PROFILE VIEW.

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Hundred: MILL CREEK

Drawn By: KEG

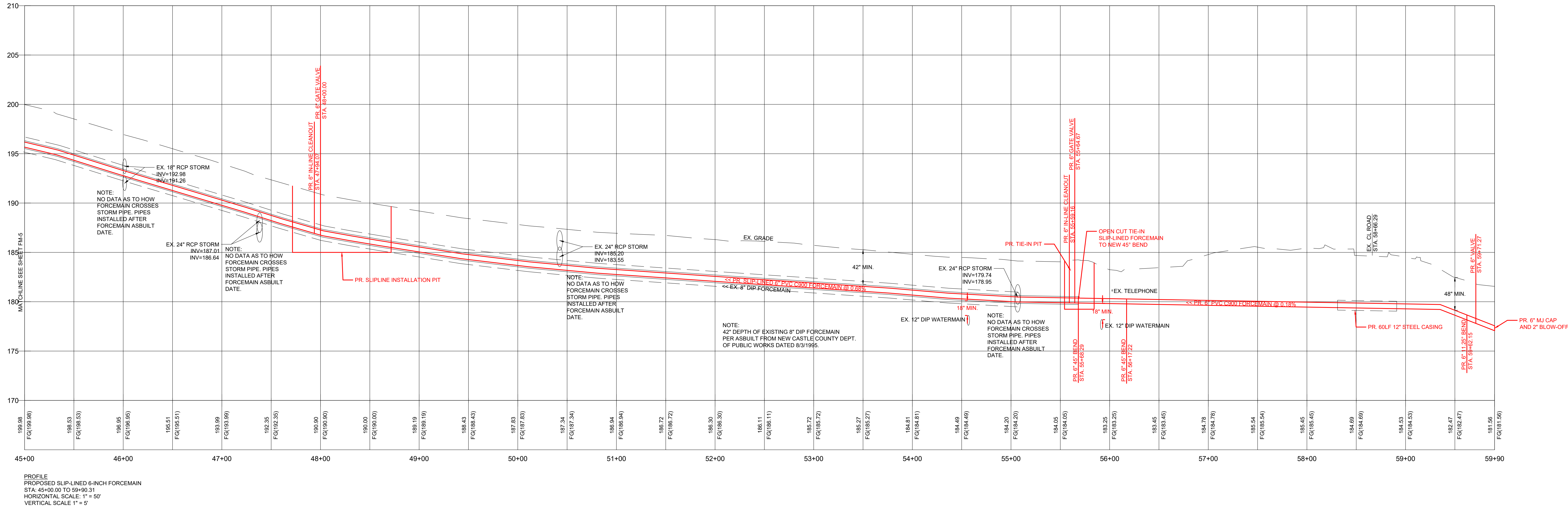
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NVF, YORKLYN ROAD

NEW CASTLE COUNTY STATE OF DELAWARE





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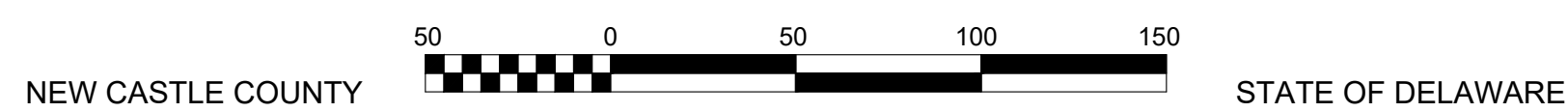
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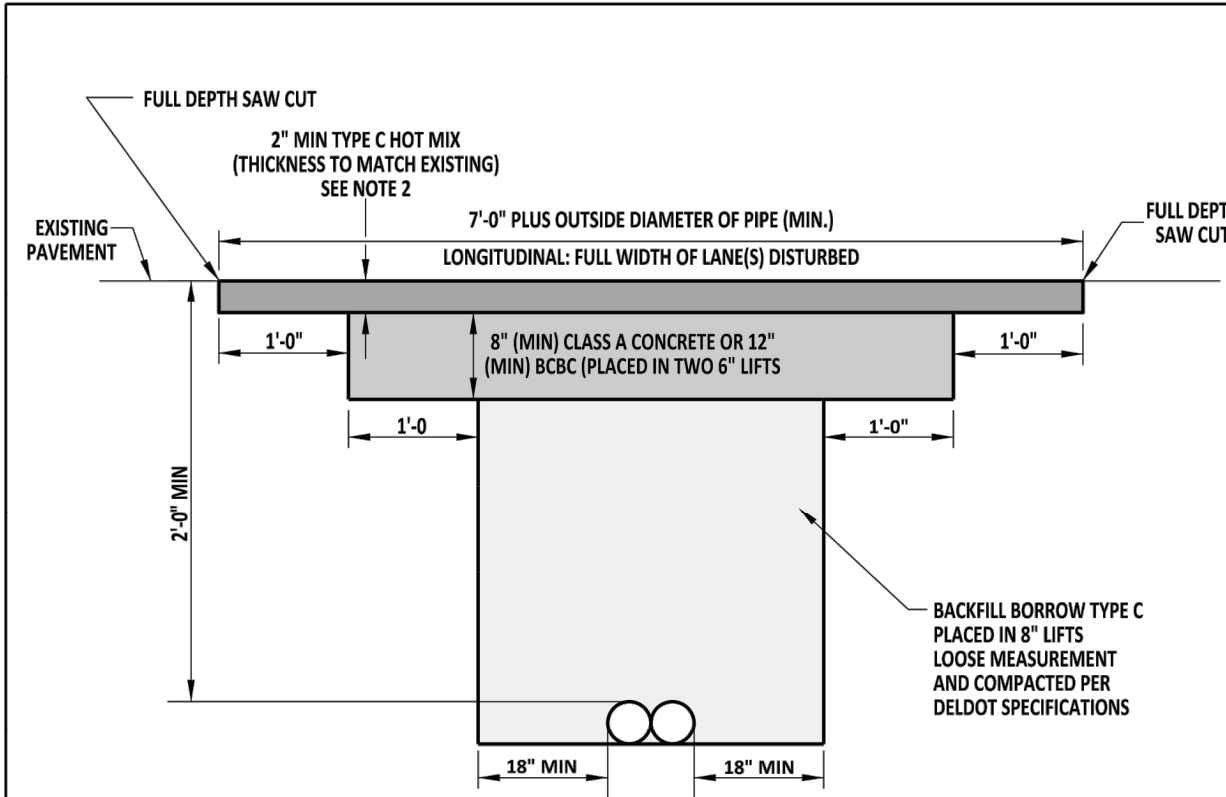
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FORCEMAIN EXTENSION PLAN AND PROFILE NVF, YORKLYN ROAD

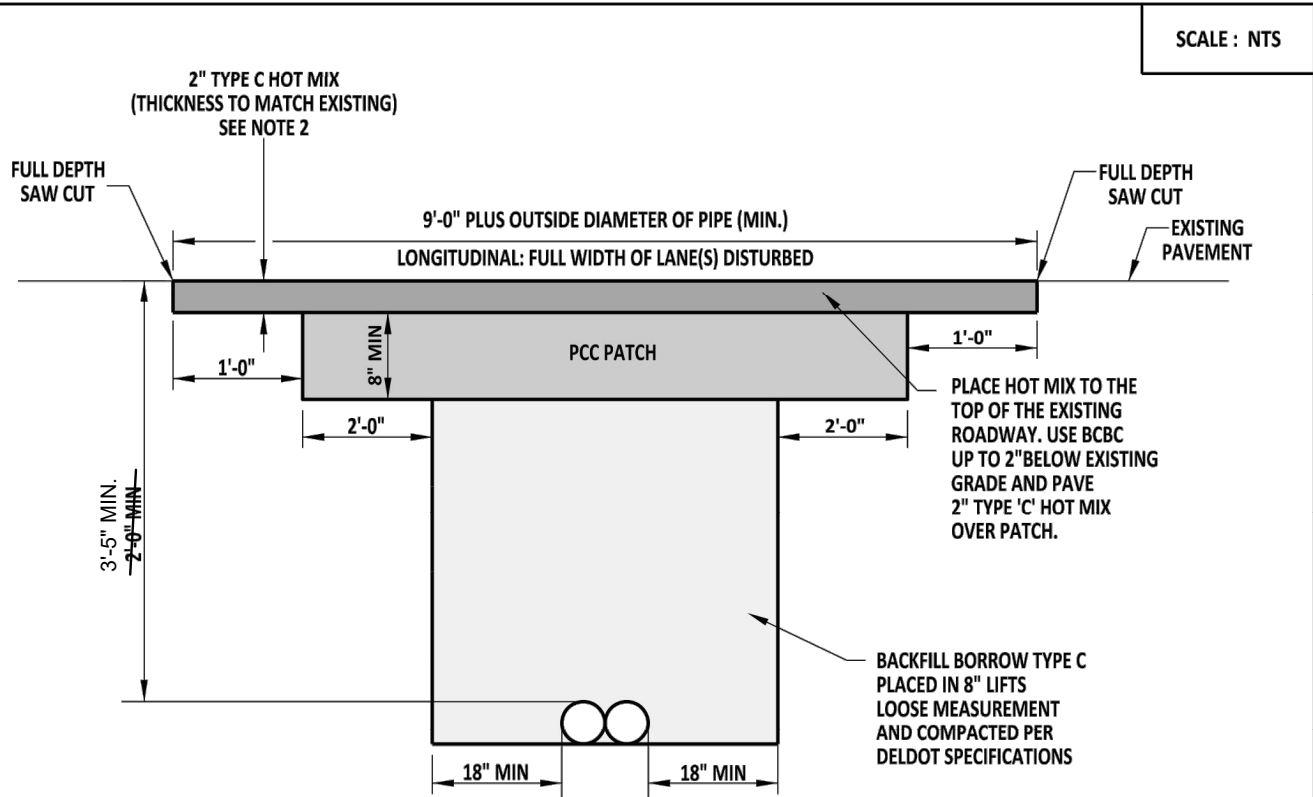


DELDOT UTILITY PLAN NOTES:

1. PLANS ARE REVIEWED FOR GENERAL CONFORMITY. DELDOT IS NOT RESPONSIBLE FOR ERRORS OR OMISSIONS WITHIN THE PLAN SET. THE UTILITY OWNER IS RESPONSIBLE TO ENSURE ACCURACY OF PLANS AND CONFORMANCE WITH DELDOT STANDARDS.
2. MANHOLE TOP SECTIONS WILL BE OFF SET CONE STYLE. ANY MANHOLE LIDS THAT ARE DETERMINED BY DELDOT TO NOT BE IN THE CENTER OF THE LANE SHALL BE ADJUSTED PRIOR TO FINAL PAVEMENT PLACEMENT.
3. MANHOLE FRAME AND LIDS SHALL BE INITIALLY SET 1/2" LOW AND ADJUSTED TO FINISH GRADE WITH CONCRETE COLLAR AFTER FINAL PAVEMENT HAS BEEN PLACED.
4. CONCRETE COLLARS SHALL BE POURED AROUND MANHOLE FRAME AND LIDS/VALVE BOXES TO FINISH GRADE USING CLASS "A" CONCRETE.
5. ALL BACKFILL MATERIAL IN EXISTING/PROPOSED ROADWAY SHALL CONFORM TO TYPE"C" BORROW. ALL BORROW BACKFILL SHALL BE COMPACTED TO 95% USING AASHTO T99 STANDARD FOR TESTING.
6. GABC PLACED SHALL BE COMPACTED TO 98%.
7. COMPACTION TESTING SHALL BE PERFORMED EVERY 100' AND TESTING SHALL BE TAKEN ON EACH LIFT OF MATERIAL PLACED.
8. **TAR CHIP/HOT MIXES ROADS:** TRAVEL WAY PAVEMENT DISTURBED SHALL BE RESTORED AT THE END OF THE DAY PRIOR TO REOPENING TO TRAFFIC. HOT MIX SHALL BE PLACE PER TEMP PATCHING DETAIL 6" GABC AND 2" TYPE "C" HOT MIX.
9. **TAR CHIP/HOT MIXES SHOULDERS:** SHOULDERS DISTURBED MAY BE LEFT IN GABC TO FINISH GRADE OVERNIGHT BUT SHALL BE CLOSED USING APPROPRIATE SIGNING AND DRUMS. TEMP PAVEMENT SHALL BE PLACED FOR SHOULDERS AT THE END OF EACH WORK WEEK.
10. ALL AREAS DISTURBED OUTSIDE OF THE PAVEMENT SHALL BE GRADED EACH DAY TO ENSURE POSITIVE DRAINAGE AND SHALL BE PERMANENTLY RESTORED AT THE END OF EACH WEEK.
11. ALL TEMPORARY HOT MIX SHALL BE PLACED TO PROVIDE A SMOOTH RIDABLE SURFACE TO DELDOT STANDARDS.
12. A SAFETY EDGE IS REQUIRED ON ALL HOT MIX PLACED.
13. ANY STRIPING DISTURBED SHALL BE PLACED AT THE END OF THE DAY PRIOR TO OPENING TO TRAFFIC.
14. PROOF ROLL OF GABC SHALL BE PERFORMED USING A LOADED 10 WHEELER PRIOR TO PLACEMENT OF HOT MIX.
15. ALL MATERIALS AND WORKMANSHIP WITHIN THE STATE ROW SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SUPPLEMENTAL SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, UTILITY MANUAL, SPECIAL PROVISIONS AND DESIGN MEMORANDUMS.
16. THERE IS A ONE YEAR WARRANTY ON ALL EARTH WORK AND CONCRETE. A THREE YEAR WARRANTY ON ALL HOT MIX INCLUDING SUBBASE/SUBGRADE ISSUES WITHIN THE PAVEMENT AREAS. WARRANTY DOES NOT START UNTIL ALL WORK IS COMPLETED AND A STAND OF GRASS HAS BEEN ESTABLISHED TO DELDOT STANDARDS AND A ACCEPTANCE LETTER HAS BEEN ISSUED.
17. ALL DISTURBED AREAS WITHIN THE STATE RIGHT-OF-WAY, BUT NOT IN THE PAVEMENT, SHALL BE TOP-SOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED. IF SOD IS USED NEXT TO SIDEWALK OR SHARED-USE PATH, CONTRACTOR SHALL GRADE TOPSOIL ADJACENT TO THE SIDEWALK OR SHARED-USE PATH PRIOR TO PLACEMENT OF SOD TO ENSURE THAT SOD IS PLACED FLUSH OR JUST BELOW EDGE OF SIDEWALK OR SHARED-USE PATH TO AVOID WATER PONDING ON THE SIDEWALK OR SHARED-USE PATH.
18. A 72-HOUR (MINIMUM) NOTICE SHALL BE GIVEN TO THE DELDOT DISTRICT PERMIT SUPERVISOR PRIOR TO STARTING UTILITY CONSTRUCTION.
19. A 48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE DELDOT INSPECTOR PRIOR TO MATERIAL RELEASES.
20. ALL CONCRETE /HOT MIX MATERIALS SHALL BE RELEASED BY THE INSPECTOR PRIOR TO PLACEMENT.
21. MISS UTILITY OF DELAWARE SHALL BE NOTIFIED THREE (3) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1800-282-8555.
22. ALL SIGNING, STRIPING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE GUIDELINES SHOWN IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) FOR STREETS AND HIGHWAYS (LATEST EDITION). THE OWNER OR MAINTENANCE CORPORATION SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL SIGNS INSTALLED AS PART OF THIS PROJECT.
23. A COPY OF THE UP TO DATE APPROVED CONSTRUCTION DOCUMENTS AND DELDOT APPROVAL LETTERS SHALL BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES AND BE AVAILABLE FOR INSPECTION BY DELDOT PERSONNEL.
24. EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELAWARE (SEE NOTE #9).
25. SHOULD UTILITY RELOCATION BE REQUIRED, THE DEVELOPER MUST SUBMIT A UTILITY RELOCATION PLAN FOR DELDOT REVIEW, ALONG WITH CORRESPONDENCE FROM THE UTILITY COMPANIES STATING PRELIMINARY APPROVAL TO THE RELOCATION AND DESIGN OF THE UTILITIES PRIOR TO THE DELDOT PRE-CONSTRUCTION MEETING. NO PHYSICAL CONSTRUCTION CAN OCCUR UNTIL THE UTILITY PLANS ARE APPROVED. THE INDIVIDUAL UTILITY COMPANIES ISSUE FINAL APPROVAL, AND A DELDOT UTILITY PERMIT IS ISSUED TO THE UTILITY COMPANY.
26. DESIGN AND INSTALLATION OF ALL PAVEMENT MARKINGS AND STRIPING SHALL BE AS OUTLINED IN THE LATEST VERSION OF THE DE MUTCD. FOR FINAL PERMANENT PAVEMENT MARKINGS EPOXY RESIN PAINT SHALL BE REQUIRED FOR LONG LINE STRIPING. THERMO PLASTIC (EXTRUDED OR PREFORMED MATERIAL) WILL BE REQUIRED ON ASPHALT SURFACES. FOR SHORT LINE STRIPING, I.E. SYMBOLS/LEGENDS. PERMANENT PAVEMENT MARKING TAPE (PER DELDOT APPROVED MATERIALS LIST) WILL BE REQUIRED ON CONCRETE SURFACES, FOR SHORT LINE STRIPING, I.E. SYMBOLS/LEGENDS.
27. BREAKAWAY POSTS SHALL BE USED WHEN INSTALLING ALL SIGNS. REFERENCE DELDOT STANDARD CONSTRUCTION DETAIL T-15.
28. ALL PROPOSED CLOSED STORM DRAIN SYSTEMS SHALL BE VIDEO INSPECTED, REPAIRED AS NECESSARY AND APPROVED PRIOR TO THE INSTALLATION OF FINAL PAVING. IF REPAIRS ARE NEEDED, THE REPAIRED PIPE SECTIONS WILL NEED TO BE VIDEO INSPECTED AGAIN BEFORE THE REPAIR CAN BE APPROVED.
29. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT PAVING WITHIN THE STATE OF DELAWARE RIGHT-OF-WAY IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE.
30. THE DEPARTMENT RESERVES THE RIGHT TO STOP THE CONTRACTOR'S OPERATIONS, IF, IN THE OPINION OF THE DEPARTMENT'S REPRESENTATIVE, THE CONTRACTOR'S OPERATIONS ARE NOT IN COMPLIANCE WITH THE DELAWARE MUTCD, THE SPECIFICATIONS OR THE PLANS OR IF THE CONTRACTOR'S OPERATIONS ARE DEEMED UNSAFE.
31. ALL ROADWAY CLOSURES OR LANE CLOSURES BEYOND THOSE SPECIFIED AND APPROVED IN THE PLANS SHALL BE APPROVED BY THE DISTRICT SAFETY OFFICER A MINIMUM OF TWO WEEKS IN ADVANCE OF THE PROPOSED RESTRICTION.
32. TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION IN ACCORDANCE WITH THE BROCHURE ENTITLED "QUALITY GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES", PUBLISHED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA). ANY TEMPORARY TRAFFIC CONTROL DEVICES THAT DO NOT MEET THE QUALITY GUIDELINES SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE DEVICES. FAILURE TO COMPLY WILL RESULT IN WORK STOPPAGE.
33. THE CONTRACTOR SHALL PROVIDE ALL PROPERTY OWNERS AND RESIDENTS WHO LIVE ADJACENT TO THE WORK ZONE WITH WRITTEN NOTICE, 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION WORK. THIS NOTIFICATION SHALL INCLUDE THE SCOPE OF WORK, WORKING HOURS, ANTICIPATED START AND COMPLETION DATES, A SUMMARY OF CONSTRUCTION ACTIVITIES WHICH MAY INTERFERE WITH ACCESS TO THE PROPERTY INCLUDING A SCHEDULE AND ACCESS COORDINATION PLAN, CONTRACTOR'S NAME AND ADDRESS AND A DELDOT CONTACT PHONE NUMBER. FAILURE TO GIVE PROPER NOTICE WILL RESULT IN A SUSPENSION OF THE NOTICE. UNTIL PROPER NOTICE IS PROVIDED, THE CONTRACTOR SHALL PROVIDE WRITTEN VERIFICATION TO THE ENGINEER THAT THE PROPERTY OWNERS AND RESIDENTS WERE NOTIFIED.
34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE LOCAL 911 CENTER, LOCAL SCHOOLS AND THE DELDOT PUBLIC INFORMATION CENTER OF ALL ROADS AND LANES TO BE CLOSED A MINIMUM OF SEVEN CALENDAR DAYS BEFORE THE CLOSURE.
35. THE CONTRACTOR SHALL NOTIFY THE LOCAL 911 CENTER IF ACCESS TO A FIRE HYDRANT IS TEMPORARILY RESTRICTED.
36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE TRANSPORTATION MANAGEMENT CENTER IS NOTIFIED EACH AND EVERY DAY WHEN WORK IS BEING PERFORMED IN STATE RIGHT-OF-WAY. THE CONTRACTOR SHALL IDENTIFY THE TYPE OF WORK, ANY LANE(S) OR SHOULDERS CLOSED, THE LENGTH OF TIME FOR WORK, WHEN THE LANE RESTRICTIONS ARE IN PLACE AND WHEN LANE RESTRICTIONS ARE LIFTED, CONTACT PERSON/PHONE NUMBER AND STATE INSPECTOR. THE TRANSPORTATION MANAGEMENT CENTER CAN BE REACHED AT (302) 659-4600.
37. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL CORRECT ALL VERTICAL DIFFERENCES IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.
38. AT THE END OF EACH DAY'S OPERATION AND BEFORE TRAFFIC IS RETURNED TO UNRESTRICTED ROADWAY USE, TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE DELAWARE MUTCD AND DELDOT'S TEMPORARY PAVEMENT MARKINGS POLICY.
39. WHEN SIDE ROADS INTERSECT THE WORK ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERECTED INCLUDING PERMANENT WARNING SIGNS.
40. ALL STORAGE OF EQUIPMENT AND MATERIAL SHALL COMPLY WITH SECTION 6G.21 OF THE DELAWARE MUTCD.
41. ALL FLAGGERS SHALL COMPLY WITH CHAPTER 6E OF THE DELAWARE MUTCD.
42. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH OTHER CONTRACTORS IN THE AREA.
43. ALL PERSONS WORKING WITHIN THE STATE RIGHT-OF-WAY SHALL WEAR A MINIMUM OF AN ANSI CLASS II SAFETY VEST MEETING OR EXCEEDING THE ANSI 107-2004 REQUIREMENTS, AS SPECIFIED IN THE DELAWARE.
44. ALL PAVEMENT MARKINGS THAT ARE NO LONGER IN USE AND CONFLICT WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND COMPLETELY OBLITERATED BY A METHOD APPROVED BY THE ENGINEER. PAINTING OVER THE CONFLICTING PAVEMENT MARKINGS WILL NOT BE ACCEPTED AS A METHOD OF REMOVAL.
45. WITHIN THE MAINLINE WORK AREA, PERMANENT ADVANCE WARNING SIGNS WITH THE LEGENDS **ROAD WORK 1500 FT**, **ROAD WORK 1000 FT** AND **ROAD WORK 500 FT** SHALL BE INSTALLED IN ADVANCE OF THE WORK AREA IN BOTH DIRECTIONS. AN END ROAD WORK SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM FROM THE WORK AREA. ON INTERSECTING ROADWAYS WITHIN THE PROJECT LIMITS, A ROAD WORK AHEAD SIGN SHALL BE PLACED AT A DISTANCE NOT LESS THAN 500 FEET IN ADVANCE OF THE WORK AREA AND AN END ROAD WORK SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM OF THE WORK AREA. ALL PERMANENT ADVANCE WARNING SIGNS SHALL BE GROUND MOUNTED ON TWO NCHRP-350 OR MASH APPROVED BREAKAWAY POSTS AND SHALL BE MOUNTED IN COMPLIANCE WITH THE DELAWARE MUTCD. PERMANENT ADVANCE WARNING SIGNS SHALL BE MOUNTED AT A HEIGHT OF 7 FEET, MEASURED FROM THE ROADWAY TO THE BOTTOM OF THE SIGN. THE USE OF SKID MOUNTED SIGN SUPPORTS IS NOT ALLOWED UNLESS THE CONTRACTOR CAN DEMONSTRATE THAT A UTILITY CONFLICT EXISTS, WHICH SHALL BE VERIFIED BY THE ENGINEER, OR CONCRETE MEDJANS PREVENT THE INSTALLATION OF THE PERMANENT ADVANCE WARNING SIGNS IN THE APPROPRIATE LOCATION.

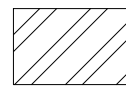


PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL



PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL

* EXISTING CONCRETE PAVEMENT OVERLAYED WITH HOTMIX LOCATIONS



ROADWAY/SHOULDER PATCH

NOTES:

- 1) PATCH WIDTHS ARE MEASURED ALONG THE ROADWAY CENTERLINE AND SHALL BE THE FULL WIDTH OF THE LANE OR LANES DISTURBED.
- 2) THIS IS A MINIMUM PATCH. IF THE EXISTING ROADWAY HAS A HEAVIER CROSS SECTION THAN SHOWN HERE, IT WILL BE REPLACED WITH THAT CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.
- 3) SEE DETAIL D-8, SHEET 1 FOR PIPE BEDDING DETAILS.



DELAWARE
DEPARTMENT OF TRANSPORTATION

| PERMANENT CROSS-ROAD PATCH OVER PIPE TRENCH DETAIL | | | | APPROVED | |
|--|------------|------|--------|-------------------|------------|
| STANDARD NO. | P-4 (2013) | SHT. | 1 OF 1 | SIGNATURE ON FILE | 02/14/2014 |
| | | | | SIGNATURE ON FILE | 01/14/2014 |

1/9/2014

MISS UTILITY OF DELMARVA
CALL BEFORE YOU DIG
1-800-282-8555 (IN DEL.)
PLEASE GIVE TWO WORKING DAYS
ADVANCE NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY
COMPONENTS FOR CONSTRUCTION SAFETY.

ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH
THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970
AND ALL RULES AND REGULATIONS THERETO APPURTENANT.



664 Churchmans Road
Newark, Delaware 19702
P.O. Box 15004, Wilmington, Delaware 19850
Phone: (302) 453-6900 Fax: (302) 453-5800

14701 Coastal Highway
Milton, Delaware 19968
Phone: (302) 453-6900 Fax: (302) 645-8233

REVISIONS

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Date: 3/17/21

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Hundred: MILL CREEK

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CAD File: FORCEMAIN DETAILS.DWG

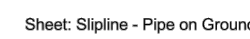
Budget No. 3003877

FORCEMAIN CONSTRUCTION DETAILS
NVF, YORKLYN ROAD

NEW CASTLE COUNTY



DELAWARE

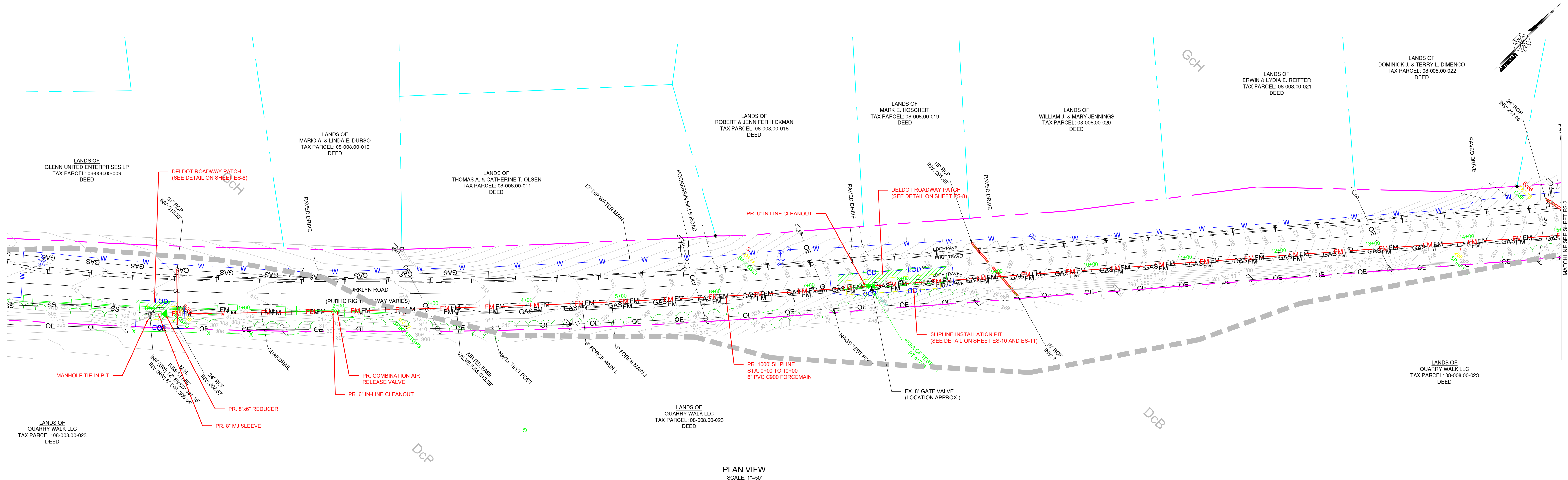
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File: Yorklyn Rd Hockessin, DE- 7ft Slipline Pit Sizing

File: Yorklyn Rd Hockessin, DE- 7ft Slipline Pit Sizing

File: Yorklyn Rd Hockessin, DE- 7ft Slipline Pit Sizing

Sheet: Slipline - Pipe on Ground



PLAN VIEW
SCALE: 1"=50'

NOTE:
ALL WORK WITHIN STATE RIGHT-OF-WAY SHALL BE PERFORMED
IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATIONS,
DELDOT STANDARD CONSTRUCTION DETAILS, DELAWARE
MUTCD, AND DELDOT UTILITIES MANUAL.

NOTE:
RIGHT OF WAY AND/OR PROPERTY LINES DEPICTED ON PLANS ARE NOT THE RESULT OF ANY RIGHT
OF WAY AND/OR PROPERTY LINE SURVEY BY ARTESIAN WASTEWATER MANAGEMENT, INC. RIGHT OF
WAY AND/OR PROPERTY LINES ARE THE RESULT OF PHYSICAL MONUMENTS FOUND IN THE FIELD,
DELAWARE DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ROAD PLANS AND THE BEST
AVAILABLE INFORMATION FROM SUSSEX COUNTY MAPPING.



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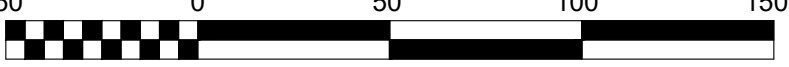
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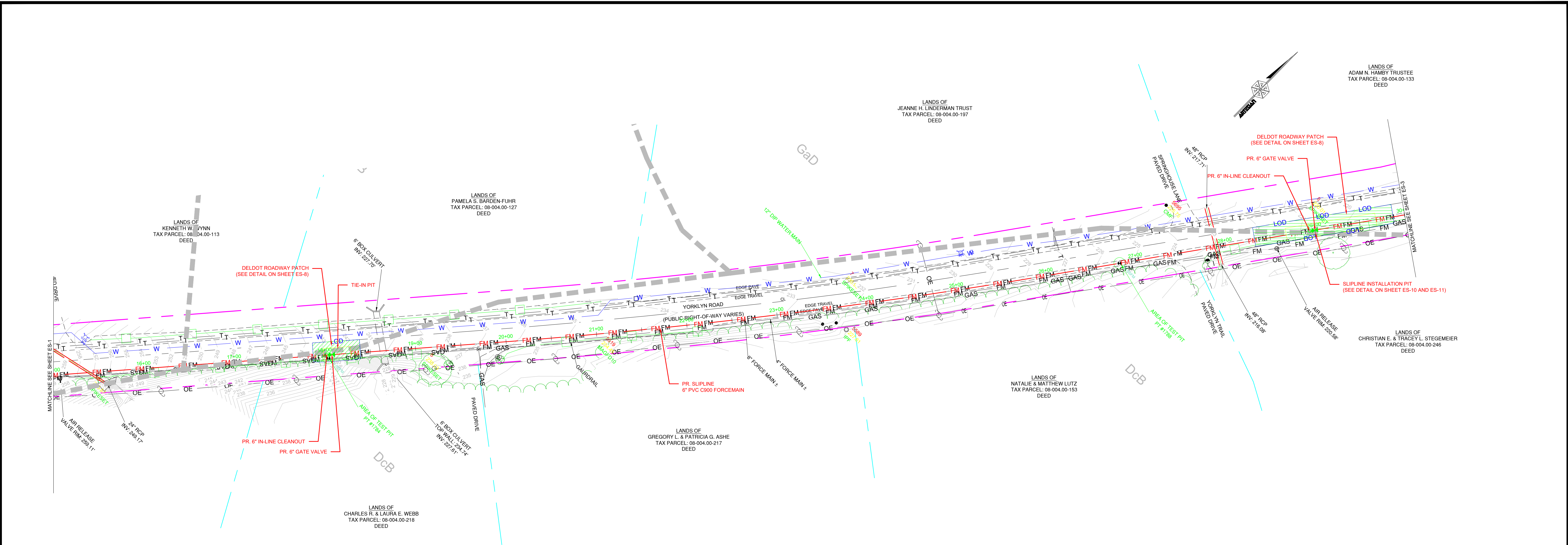
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| Scale: | 1"=50' | Page & Grid: | | Hundred: | MILL CREEK |
| Drawn By: | KEG | CAD File: | ES PLANS.dwg | Budget No. | 3003877 |

EROSION & SEDIMENT CONTROL PLAN
NVF, YORKLYN ROAD

NEW CASTLE COUNTY STATE OF DELAWARE





PLAN VIEW
SCALE: 1"=50'

NOTE:
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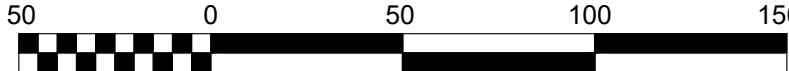
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| Scale: | 1"=50' | Page & Grid: | | Hundred: | MILL CREEK |
| Drawn By: | KEG | CAD File: | ES PLANS.dwg | Budget No. | 3003877 |

EROSION & SEDIMENT CONTROL PLAN NVF, YORKLYN ROAD

NEW CASTLE COUNTY STATE OF DELAWARE



NOTE:
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REVISIONS:

Date: 4/1/21

Checked By: AG

Sheet: ES-3

Scale: 1"=50'

Page & Grid:

Hundred: MILL CREEK

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CAD File: ES PLANS.dwg

Budget No. 3003877

EROSION & SEDIMENT CONTROL PLAN NVF, YORKLYN ROAD

NEW CASTLE COUNTY



STATE OF DELAWARE

Standard Detail & Specifications

Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES

| Mix # | Species ^a | Seeding Rate ^a | Optimum Seeding Dates ¹ | | | | | Planting Depth ^b | |
|----------------|----------------------|---------------------------|---|----------|-----|---|---|-----------------------------|------------------|
| | | | a = Optimum Planting Period; A = Acceptable Planting Period | | | | | | |
| Certified Seed | | lb/a/c ² | Coastal Plain | Piedmont | All | | | | |
| 1 | Barley | 125 | 4 | O | A | O | A | O | 1-2 inches |
| 2 | Datula | 125 | 4 | O | A | O | A | O | 2-2" sandy soils |
| 3 | Rye | 125 | 4 | O | A | O | A | O | 1-2 inches |
| 4 | Perennial Ryegrass | 125 | 4 | O | A | O | A | O | 2-2" sandy soils |
| 5 | Annual Ryegrass | 125 | 4 | O | A | O | A | O | 0.5 inches |
| 6 | Winter Wheat | 125 | 4 | O | A | O | A | O | 1-2" sandy soils |
| 7 | Fall Rye | 30 FLS | 0.7 | O | | | | | 2-2" sandy soils |
| 8 | Pasture Mix | 20 FLS | 0.5 | O | | | | | 1-2" sandy soils |

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be started throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Application on slopes 3:1 or less.
4. Filly pounds per acre of Annual Lepidolene may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 8/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook

Symbol: **DE-ESC-3.4.3**

Detail No. Sheet 1 of 4

Standard Detail & Specifications

Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES

| Mix No. | Certified Seed ^a | Seeding Rate ^a | Optimum Seeding Dates ¹ | | | | | Remarks |
|---------------|-----------------------------|---------------------------|---|----------|-----|--|--|---------|
| | | | a = Optimum Planting Period; A = Acceptable Planting Period | | | | | |
| Coastal Plain | | Piedmont | All | | | | | |
| 1 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
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2. May be started throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Application on slopes 3:1 or less.
4. Filly pounds per acre of Annual Lepidolene may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 8/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook

Symbol: **DE-ESC-3.4.3**

Detail No. Sheet 2 of 4

Standard Detail & Specifications

Silt Fence

Section

Plan

1. Site Preparation

2. Seeded Preparation

3. Soil Amendments

4. Seeding

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook

Symbol: **DE-ESC-3.1.2.1**

Detail No. Sheet 1 of 2

Standard Detail & Specifications

Stabilized Construct. Entrance

Section A-A (Std.)

Section A-A (Opt.)

1. Site Preparation

2. Seeded Preparation

3. Soil Amendments

4. Seeding

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook

Symbol: **DE-ESC-3.1.2.1**

Detail No. Sheet 1 of 2

Standard Detail & Specifications

Inlet Protection - Type 2

Section A-A (Std.)

Section A-A (Opt.)

1. Site Preparation

2. Seeded Preparation

3. Soil Amendments

4. Seeding

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook

Symbol: **DE-ESC-3.1.2.1**

Detail No. Sheet 1 of 2

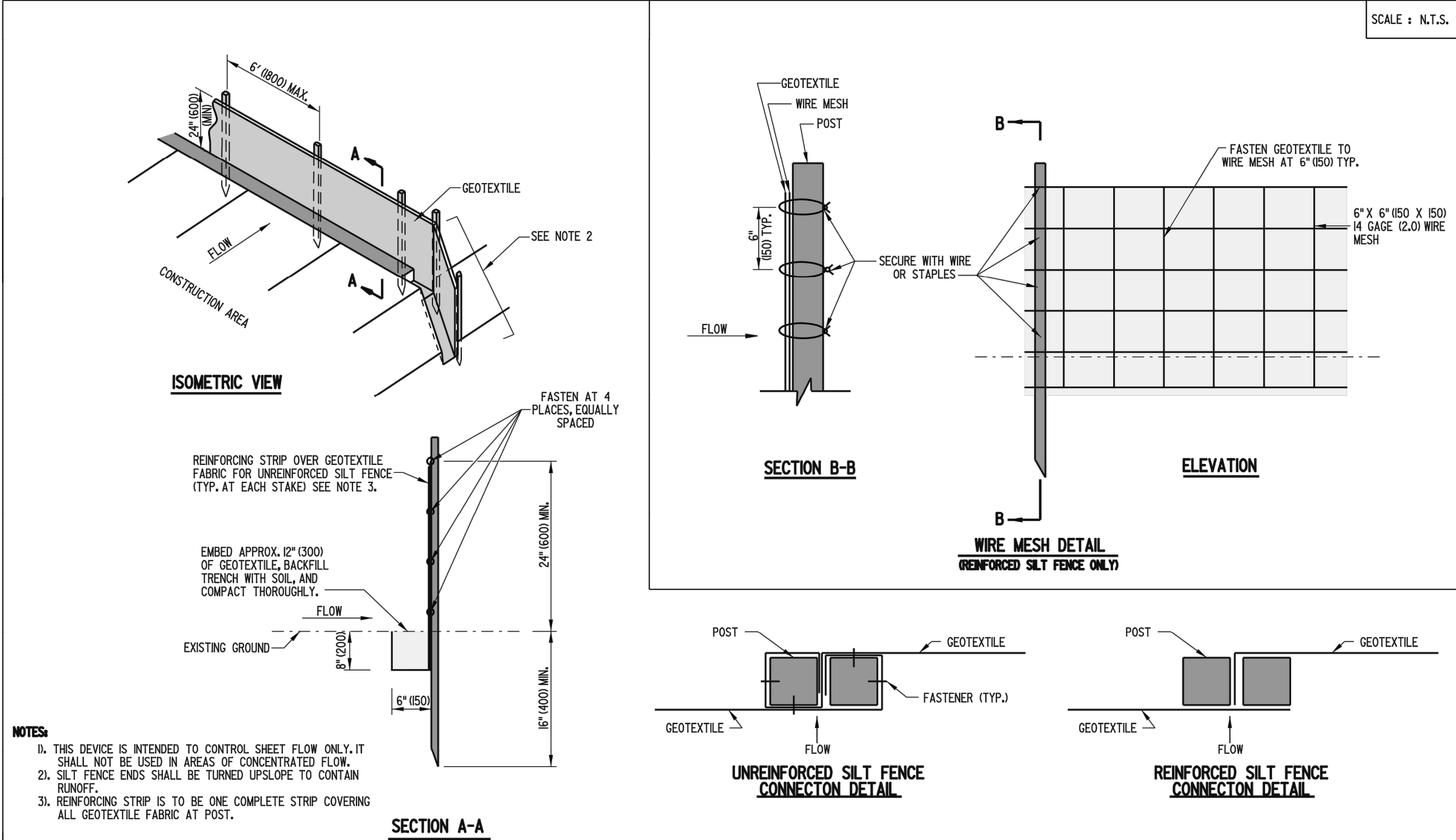
Standard Detail & Specifications


Vegetative Stabilization

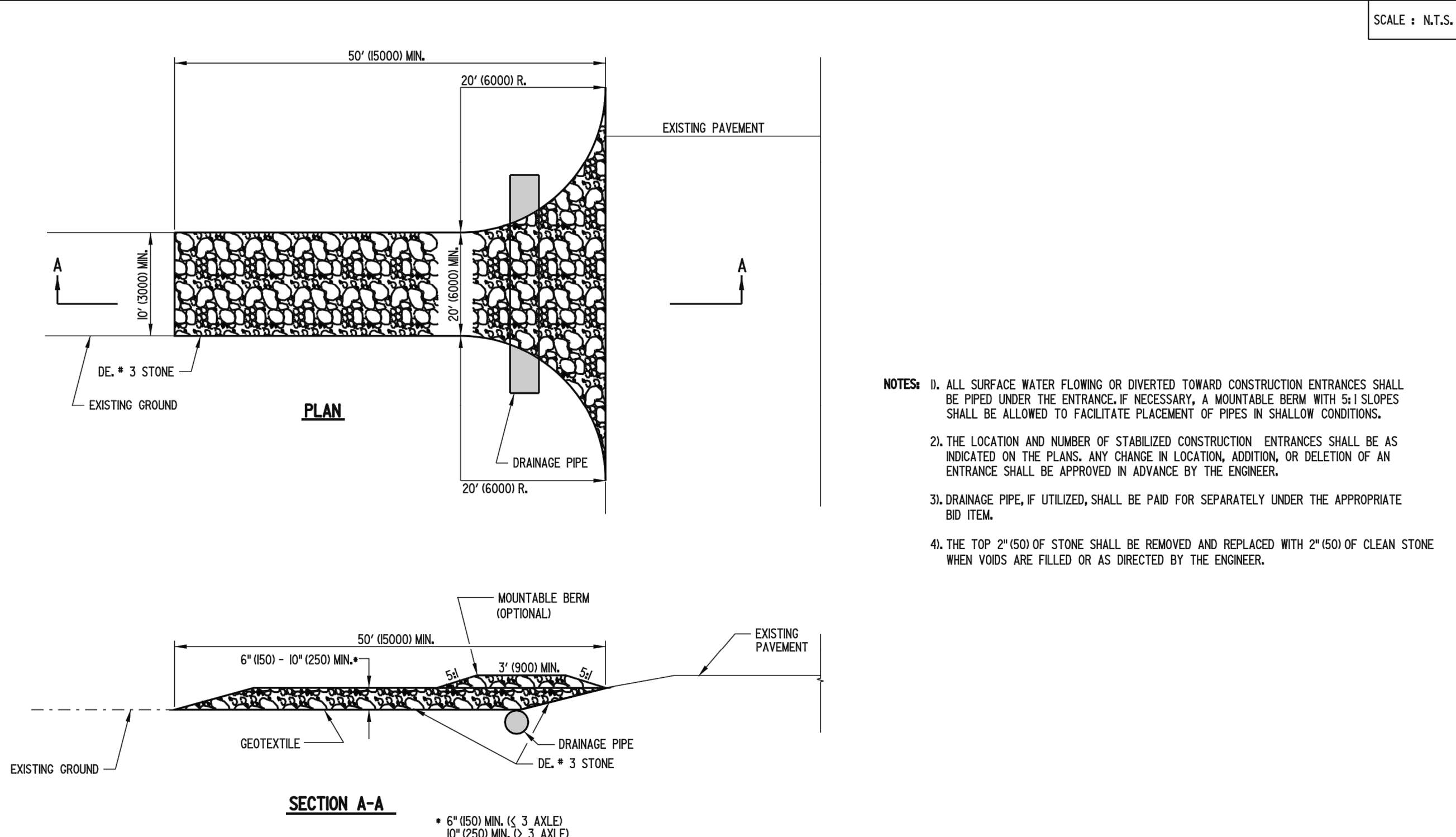
PERMANENT SEEDING AND SEEDING DATES (cont.)


| Mix No. | Certified Seed ^a | Seeding Rate ^a | Optimum Seeding Dates ¹ | | | | | Remarks |
|---------------|-----------------------------|---------------------------|---|----------|-----|--|--|---------|
| | | | a = Optimum Planting Period; A = Acceptable Planting Period | | | | | |
| Coastal Plain | | Piedmont | All | | | | | |
| 1 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
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| 26 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 27 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 28 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 29 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 30 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 31 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 32 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 33 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 34 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 35 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 36 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 37 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 38 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 39 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 40 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 41 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 42 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 43 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 44 | Wet Drained Soils | lb/a/c ² | Coastal Plain | Piedmont | All | | | |
| 45 | Wet Drained Soils</ | | | | | | | |

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|--|-------------------------|-------------|---|-----------------|
|  DELAWARE DEPARTMENT OF TRANSPORTATION | SILT FENCE | | APPROVED <i>Theresa T. Smith</i> 10/10/06 | |
| | STANDARD NO. E-2 (2006) | SHT. 1 OF 1 | RECOMMENDED <i>Debra Smith</i> 10/10/06 | DATE 10/02/2006 |



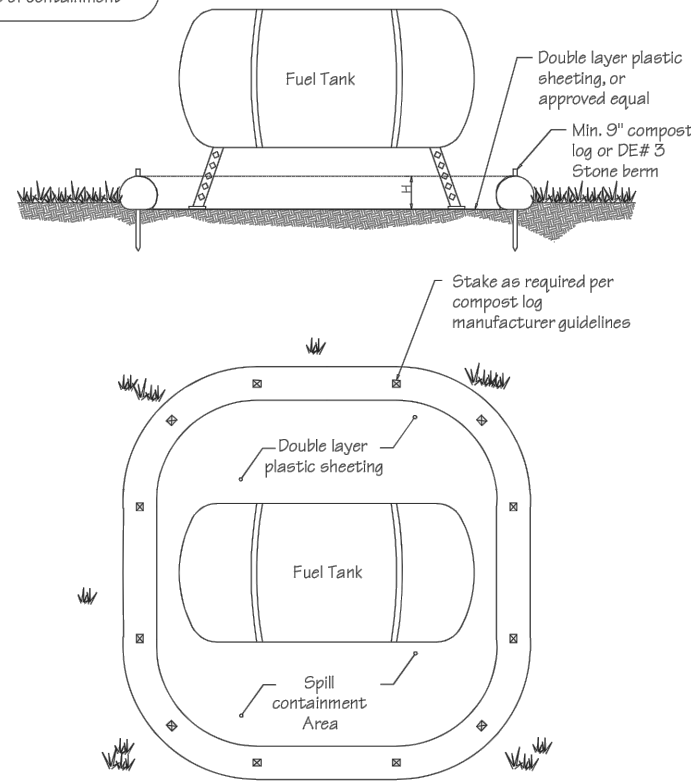
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|--|----------------------------------|-------------|---|-----------------|
|  DELAWARE DEPARTMENT OF TRANSPORTATION | STABILIZED CONSTRUCTION ENTRANCE | | APPROVED <i>Carolyn Wick</i> 12/15/05 | |
| | STANDARD NO. E-21 (2005) | SHT. 1 OF 1 | RECOMMENDED <i>Debra Smith</i> 11/29/05 | DATE 09/08/2005 |

Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

DATA TO BE PROVIDED:

- Volume of Potential Pollution
- Height of containment
- Area of containment
- Volume of containment



| | | |
|-----------------------|---------|------------------------------|
| Source: | Symbol: | Detail No. |
| Delaware ESC Handbook | | DE-ESC-3.6.1 Sheet 1 of 5 |

Effective February 2019

Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Pollution Prevention - Spill Prevention

1. Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
2. Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
3. Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
4. Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
5. Place a "Fueling Area" sign next to each fueling area.
6. Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
7. Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
8. Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
9. If fueling is to take place at night, make sure the fueling area is sufficiently illuminated.
10. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.

CLEAN UP SPILLS

1. If it is safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
2. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
3. Do not bury spills or wash them down with water.

LEAKS AND DRIPS

1. Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
2. Do not allow oil, grease, fuel or chemicals to drip onto the ground.
3. Have spill kits and clean up material on-site.
4. Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
5. Store contaminated waste in sealed containers constructed of suitable material. Label these containers properly.
6. Clean up oil spills and leaks. Promptly dispose of waste and spent clean up materials.

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| Source: | Symbol: | Detail No. |
| Delaware ESC Handbook | | DE-ESC-3.6.1 Sheet 2 of 5 |

Effective February 2019

Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

1. Material Inventory

Document the storage and use of the following materials:

- a. Concrete
- b. Detergents
- c. Paints (enamel and latex)
- d. Cleaning solvents
- e. Pesticides
- f. Wood scraps
- g. Fertilizers
- h. Petroleum based products

2. Good housekeeping practices

- a. Store only enough product required to do the job.
- b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
- c. Substances shall not be mixed.
- d. When possible, oil of a product shall be used up prior to disposal of the container.
- e. Manufacturers' instructions for disposal shall be strictly adhered to.
- f. The site foreman shall designate someone to inspect all BMPs daily.

3. Waste management practices

- a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
- b. Waste materials shall be salvaged and/or recycled whenever possible.
- c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

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| Source: | Symbol: | Detail No. |
| Adapted from USEPA Pub. 840-B-92-002 | | DE-ESC-3.6.1 Sheet 3 of 5 |

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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Notes (cont.)

- d. Trash shall be disposed of in accordance with all applicable Delaware laws.
 - e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
 - f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.
- ##### 4. Equipment maintenance practices
- a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
 - b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
 - c. Drip pans shall be used for all equipment maintenance.
 - d. Equipment shall be inspected for leaks on a daily basis.
 - e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
 - f. Fuel nozzles shall be equipped with automatic shut-off valves.
 - g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.
- ##### 5. Spill prevention practices
- a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
 - b. Warning signs shall be posted in hazardous material storage areas.
 - c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
 - d. Low or non-toxic substances shall be prioritized for use.

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| Source: | Symbol: | Detail No. |
| Adapted from USEPA Pub. 840-B-92-002 | | DE-ESC-3.6.1 Sheet 4 of 5 |

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Standard Detail & Specifications

Construction Site Waste Mgt & Spill Control

Notes (cont.)

- e. Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.
- ##### 6. Education
- a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
 - b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

CONTACT INFORMATION

DNREC 24-Hour Toll Free Number 800-662-8802
DNREC Solid & Hazardous Waste Management Section 302-739-9403

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| Source: | Symbol: | Detail No. |
| Adapted from USEPA Pub. 840-B-92-002 | | DE-ESC-3.6.1 Sheet 5 of 5 |

Effective February 2019



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Newark, Delaware 19702
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Phone: (302) 453-6900 Fax: (302) 453-5800

14701 Coastal Highway
Milton, Delaware 19968
Phone: (302) 453-6900 Fax: (302) 645-8233

REVISIONS:

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Budget No. 3003877

EROSION & SEDIMENT CONTROL NOTES AND DETAILS

NVF, YORKLYN ROAD

NEW CASTLE COUNTY



STATE OF DELAWARE